FIVE YEAR REVIEW REPORT

FISHER-CALO SUPERFUND SITE

KINGSBURY,
INDIANA

Pursuant to CERCLA

Prepared by:
United States Environmental Protection Agency
Region 5
Chicago, Illinois

Richard C. Karl, Director
Superfund Division, Region 5

9-1-05
Date

FIVE YEAR REVIEW REPORT
EXECUTIVE SUMMARY
SEPTEMBER, 2005

FISHER-CALO SUPERFUND SITE

KINGSBURY,
INDIANA

The completion of the current five year review confirms that the Fisher-Calo Superfund Site remedial action remains protective of human health and the environment. The components of the remedy selected in the 1990 Site Record of Decision (ROD) and 1997 ROD Amendment have been implemented under the 1992 Consent Decree. The Fisher-Calo groundwater extraction and treatment system remains in place, and has been operating since February 1988 at approximately 800 gpm. The four groundwater plumes and Site treatment plant are monitored under the ongoing Site operation and maintenance monitoring program. Monitoring data shows that nine of ten VOCs of concern at Fisher-Calo have been steadily decreasing over the last seven years.

This is the second five year review for the Fisher-Calo Site. The first five year review was completed and signed in September 2000. Groundwater treatment system extraction well flow rates and uses have been adjusted since the last review, as the four plumes contaminant levels have been reduced. The last of the six soil treatment systems for the Fisher-Calo Site was decommissioned in 2001, and the soil remedy was formally completed in October 2003.

The Fisher-Calo groundwater extraction and treatment system should be operated, maintained and monitored for the foreseeable future, until groundwater cleanup standards are met at the Site. The groundwater monitoring program is currently being evaluated in 2005 to provide the most efficient sampling program for future years. The soil portion of the Fisher-Calo Site remedy has been completed, and has been documented in the Site file.

Five Year Review Summary Form

SITE IDENTIFICATION		
Site name *(from WasteLAN)*: Fisher-Calo		
EPA ID *(from WasteLAN)*: IND074315896		
Region: 5	**State:** IN	**City/County:** Kingsbury, La Porte

SITE STATUS	
NPL status: X Final _ Deleted _ Other (specify) _____	
Remediation status (choose all that apply): _ Under Construction X Operating _ Complete	
Multiple OUs?* _ YES X NO	**Construction completion date:** 8/6/98
Has site been put into reuse? _ YES X NO	

REVIEW STATUS	
Lead agency: X EPA _ State _ Tribe _ Other Federal Agency _____	
Author name: Jeff Gore	
Author title: Remedial Project Manager	**Author affiliation:** U.S. EPA, Region 5
Review period:** 1/13/05 to September, 2005	
Date(s) of site inspection: July 6, 2005	
Type of review: X Post-SARA _ Pre-SARA _ NPL-Removal only _ Non-NPL Remedial Action Site _ NPL State/Tribe-lead _ Regional Discretion	
Review number: _ 1 (first) X 2 (second) _ 3 (third) _ Other (specify) _____	
Triggering action: _ Actual RA Onsite Construction at OU #___ _ Actual RA Start at OU# 1 _ Construction Completion X Previous Five-Year Review Report _ Other (specify) _____	
Triggering action date *(from WasteLAN)*: 9/7/2000	
Due date *(five years after triggering action date)*: 9/7/2005	

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

U.S. Environmental Protection Agency
Region 5
Five Year Review
Fisher-Calo Superfund Site
Kingsbury, Indiana
September 2005

I. Introduction

The purpose of a five year review is to provide a summary of the selected remedy at a site, and determine if the remedy remains protective of human health and the environment. The methods, findings and conclusions of reviews are documented in five year review reports. In addition, five year review reports identify issues found during the review, if any, and identify recommendations to address them. The United States Environmental Protection Agency (U.S. EPA) Region 5 has conducted a five year review of the remedial actions implemented at the Fisher-Calo Superfund Site in Kingsbury, Indiana. The review was conducted between January 2005 and September 2005. This report documents the results of the five year review.

This review is required by policy. U.S. EPA performs policy reviews at sites where no hazardous substances will remain above levels that would prevent unlimited use and unrestricted exposure after completion of a remedial action, but the remedial action goals specified in the Record of Decision (ROD) will require five or more years to attain, e.g. long-term response action (LTRA) sites. This policy is outlined in OSWER Directives 9355.7-02 (Structure and Components of Five-Year Reviews, May 23, 1991), 9355.7-02A (Supplemental Five-Year Review Guidance, July 26, 1994) and 9355.7-03A (Supplemental Five-Year Review Guidance, December 21, 1995).

The ROD and ROD amendment at the Fisher-Calo Superfund Site established soil and groundwater clean up standards which would allow for eventual unlimited use of groundwater at the Fisher-Calo Site. This is the second five year review for the Fisher-Calo Superfund Site. The first five year review was completed on September 7, 2000. The date for the current five year review is triggered by the completion of the September 2000 review. Both reviews are based on the site remedy construction completion which took place in 1998.

II. Site Chronology

Table 1 lists the chronology of events for the Fisher-Calo Superfund Site.

Table 1: Chronology of Site Events

Date	Event
1978	Initial discovery of problem
1980	Initial drum removal
1982	U.S. EPA Site investigation
1982	Proposed for NPL listing
1983	NPL final listing
1986	Remedial Investigation/FS initiated
1990	Remedial Investigation/FS completed
1990	ROD signed
1992	RD/RA Consent Decree
1995	Remedial Action start
1995	Buried Drum removal
1996	PCB soils removal and initial SVE
1997	ROD amendment
1998	Remedy construction completion
2000	First Five Year Review
2003	Soil remedy completion
2005	Second Five Year Review

III. Background

A. Physical Characteristics

The Fisher-Calo Site is located in the Kingsbury Industrial Development Park (KIDP) in La Porte

County, Indiana (Refer to figures). The KIDP is located in the southeast section of La Porte County, approximately 12 miles southeast of La Porte, Indiana. The communities of Kingsbury, 1.9 miles to the northwest, and Kingsford Heights, 1.6 miles to the southwest, are the major population centers located near the site.

The Fisher-Calo Site is located on three areas at KIDP: the One-Line Road property, the Two-Line Road property and the Space Leasing property. The KIDP Two-Line Road property is located one mile east of the One-Line property. The Space Leasing property is approximately two miles east of the Two-Line Road property on the north side of Hupp Road.

B. Land and Resource Use

The Kingsbury Park One-Line Road property is bordered to the north and south by grasslands and buildings. The area west of the One-Line property contains scattered woodlands and fields. Travis Ditch and Kingsbury Creek parallel the western border of the facility. The land between the One-Line property and Two-Line property, as well as along the eastern and southern side of the Two-Line facility, is often under cultivation with corn or soybeans. Abandoned munitions bunkers surrounded by grassland are located north of Hupp Road across from the Two-Line property. To the south of the facility, the land consists of scattered woodlands and grassland.

The Space Leasing property is surrounded by munitions bunkers to the west and cropland to the north and south. The Kingsbury Fish and Wildlife area, operated by the Indiana Department of Natural Resources, is located at the end of Hupp Road and to the east of the Space Leasing area. A number of industrial park production wells are located near the Fisher-Calo Site. Three production wells are located near the Site in the industrial park, and several municipal wells are installed west and southwest of the Site.

C. History of Contamination

Fisher-Calo and various subsidiaries began operations at KIDP in the early 1970's. The Site facilities were used for processing and distributing solvents, metal finishing supplies and other industrial chemicals. Fisher-Calo also operated a solvent reclamation facility on the Site for several years to recover and resell paint and metal cleaning solvents. Chemical wastes were either stored in metal drums and buried, or stockpiled on the Site. In addition, wastes were disposed of directly on the ground.

D. Initial Response

Industrial facilities on the One-Line Road property caught on fire in March 1978. Fisher-Calo's solvent reclamation building, several bulk storage tanks, and an estimated 20,000 drums of chemical wastes and solvents were destroyed. Residents within a five mile radius of the Site were evacuated during the fire. After the fire, the Indiana State Board of Health (ISBH) and other regulatory agencies conducted periodic inspections of the Fisher-Calo operations.

A number of violations, including buried drums and waste, were discovered over the next few years at Fisher-Calo. Drums containing chemicals and sludges were removed from the Site in 1980. In February 1982, the USEPA's Field Investigation Team (FIT) conducted a Site investigation which indicated elevated levels of organic compounds in the groundwater and surface soils.

E. Basis for Taking Action

Remedial planning began at Fisher-Calo as the Site was proposed for the National Priorities List (NPL) on December 30, 1982. The Site became a final NPL listing on September 8, 1983. A remedial investigation (RI) and feasibility study (FS) were carried out from 1986 through 1990. The significant results of the RI/FS at the Fisher-Calo Site included:

* The major source of contamination was the elevated levels of organic compounds in the groundwater and surface soils. This contamination was the result of improper waste handling and disposal practices at the Fisher-Calo Site.

* There were a number of soil contamination areas at the Site. The primary areas of soil contamination were where drums had been stored or buried, or where disposal pits were present. The soil contaminants were a source of contamination to the groundwater at the Site.

* The primary contaminants in the soil source areas were volatile organic compounds such as trichloroethene (TCE), 1,2-dichloroethene (DCE) and 1,1-dichloroethane (DCA); the semi-volatile bis (2-ethylhexyl) phthalate; and polychlorinated biphenyls (PCBs).

* Groundwater contaminants considered to be the major potential human health and environmental threats included the volatile organic compounds TCE, DCE and DCA.

* Surface drums and buried drums at the Site often leaked, and were a significant human health and safety risk at the Site. As a result, it was appropriate to conduct emergency removal actions to examine, repackage and remove the drums from the Site.

The 1990 ROD and 1997 ROD amendment prepared by USEPA with concurrence by Indiana Department of Environmental Management (IDEM) outlined the remediation goals for the Fisher-Calo Site. These goals included protecting human health by preventing the contaminants in the soils from entering the groundwater; treating the groundwater in order to protect the public and private water supply wells in the area from contamination; reducing the soil and groundwater contamination in order to eliminate human health risks at the Site; identifying any additional buried or surface drums at the Site and removing them; and implementing access restrictions on the Fisher-Calo Site property.

IV. Remedial Actions

A. Remedy Selection

The major components of the 1997 ROD amendment at the Fisher-Calo Site, including those components in the 1990 ROD that were updated due to the amended Site remedy are:

* Installation of security fences around the contaminated soil areas on the One-Line Road property, the Two-Line Road property and the Space Leasing property.

* Excavation and off-site disposal of PCB contaminated soils on the One-Line Road property. The soils were disposed off-site in a permitted hazardous waste landfill.

* Installation of air sparging injection wells and use of bioremediation in soil areas contaminated with semi-volatile organic compounds (SVOCs) on the One-Line Road property and Two-Line Road property.

* Soil vapor extraction of volatile organic compounds (VOCs) in contaminated soil areas on the One-Line Road property, the Two-Line Road property and the Space Leasing property. The soils were treated, as outlined in the remedial design work plan, to allow attainment of established groundwater cleanup levels.

* A buried drum investigation was undertaken in two areas on the One-Line Road property and the Space Leasing property. Testing was done to determine where buried drums and/or containers may have come to be located. Any located drums, containers and container contents were excavated and properly disposed. Contaminated soils in the buried drum areas were identified and are being treated.

* Installation of an extraction well network to remove contaminated groundwater. Following extraction, the contaminated groundwater is pumped through a piping system to a groundwater treatment facility. The groundwater is treated by air stripping in order to meet appropriate USEPA and State of Indiana requirements. After treatment, the water is discharged into nearby Travis Ditch.

* Installation of a groundwater monitoring well system to determine the effectiveness of the remedy, and provide public health and safety. The monitoring well system is being used to ensure that the treatment system contains the Site groundwater plumes, and will be utilized until groundwater drinking standards are met.

* A new production well capable of producing at least 500 gallons per minute was installed. This well was needed to replace the capacity of an existing production well (well A) previously closed due to contamination.

The major differences between the remedy outlined in the 1997 ROD amendment for Fisher-Calo and the remedy described in the 1990 ROD are as follows:

1) The 1997 amendment involves the excavation and off-site disposal of PCB contaminated soils at a permitted hazardous waste facility. The 1990 ROD required that PCB contaminated soils be excavated and incinerated.

2) The ROD amendment involves bioremediation of semi-volatile organic compounds (SVOCs) in the contaminated soils at the Site using air sparging injection wells. The 1990 ROD required that SVOC contaminated soils be excavated and incinerated.

3) The 1997 ROD amendment involves the treatment of volatile organic compound (VOC) contaminated soils using soil vapor extraction. The 1990 ROD listed soil flushing or soil vapor extraction as treatments for the VOC contaminated soils.

4) The amended ROD involves the extraction of contaminated groundwater, treatment, and discharge of treated groundwater to nearby Travis Ditch. The treated groundwater is required to meet Indiana discharge limits based on regulations through the National Pollutant Discharge Elimination System (NPDES) permit process, before being discharged to Travis Ditch. The 1990 ROD listed the groundwater remedy as extraction, treatment and re-injection of treated groundwater to the underlying aquifer.

B. Remedy Implementation

A Consent Decree regarding the August 1990 ROD was entered in U.S. District Court in February 1992 between U.S. EPA and the potential responsible parties (PRPs). The contractor representing the PRPs completed the remedial design (RD) in 1995. A ROD amendment was signed in September 1997.

Buried drum investigations carried out at the One-Line Road and Space Leasing properties during the remedial design revealed approximately 3500 buried drums. This drum removal began the remedial action at the Fisher-Calo Site. These drums and contents were excavated, overpacked and sampled in 1994. The 3500 drums and contents were then consolidated, removed and disposed off-site from September to December of 1995. The soil areas at the One-Line Road and Space Leasing properties where the drums were excavated then became part of the Site soil remedy, and an additional fourth groundwater plume at Space Leasing became part of the groundwater remedy. The PCB contaminated soil cleanup was completed in January 1996 when approximately 500 cubic yards of the soil was excavated and disposed off-site in a hazardous waste landfill.

The groundwater pump and treatment system for the Fisher-Calo Site began operating in February of 1998. The treatment system consists of 15 extraction wells located over four different groundwater plumes and two miles of transmission line. A carbon dioxide (CO2)

injection system was constructed for the One-Line Road groundwater treatment system in December 1999. The CO2 system was added in order to reduce the high levels of iron precipitation that were occurring in the extraction wells. The CO2 system was discontinued in 2004 after a study determined that it was no longer needed. An additional groundwater extraction well, EW1N-4, was added to the north end of the One-line Road system in January 2000 to achieve total capture of the groundwater plume located there. The nearby extraction well EW1N-3 was decommissioned when EW1N-4 went on-line.

The soil treatment systems began operating at the Fisher-Calo Site in May 1998, with the exception of Area A3 which had been operating since the beginning of 1996. The PRPs were required to perform soil boring and system emissions sampling until VOC and SVOC soil compliance levels were met at each area. Soil treatment was determined to be complete based on confirmation soil and system emissions sampling. Area A3 soil treatment on Two-Line Road property was completed in August 1998. The Space Leasing Soil Area treatment was completed in September 1999. Area A1 on Two-Line Road and Area C2 on One-Line Road were completed in December 1999. The security fence at Area C2 was taken down in 2001, since the area is located within a larger secured fence area. The soil remedy was completed for the Fisher-Calo Site in October 2003.

C. Systems Operations/ Operations and Maintenance

Groundwater and surface water remedial objectives at the Fisher-Calo Superfund Site are the attainment of U.S. EPA primary and secondary drinking water maximum contaminant levels (MCLs) by utilizing groundwater treatment, and the elimination of any excess lifetime cancer risks according to State of Indiana water quality requirements. Soil remedial objectives include the elimination of any excess groundwater leachate, direct contact, ingestion and inhalation human health risks by treatment of contaminated soils. Soil clean up levels for the Fisher-Calo Site were determined using a groundwater leachate model, in order to eliminate additional risks for groundwater contamination.

Excess human health risks due to contaminated groundwater are being addressed by the groundwater remedy at the Site. The extraction and treatment system has been on-line since February 1998, and continues to operate at approximately 800 gpm. The Fisher-Calo Site group is required to perform sampling at the four groundwater plumes and treatment plant for a minimum of 10 years and up to 30 years, or until groundwater compliance standards are met. The treated groundwater must also be sampled as long as the treatment plant operates to assure that it meets Indiana permit requirements before being discharged into Travis Ditch.

The four groundwater plumes are being adequately contained, and significant contaminant mass is being removed from the aquifer. Since it is unlikely, though, that groundwater clean-up standards will be met in the near future, the groundwater treatment system will likely be in place during the next scheduled Five-Year Review in 2010.

The Fisher-Calo soil remedy has been completed at all five soil treatment areas, the PCB removal area, and the drum removal locations. Notice of remedial action completion of the soil remedy at the Site was documented and sent to the responsible parties in October 2003.

V. Progress Since Last Five Year Review

This is the second five year review for the Fisher-Calo Site. The first five year review report was completed and signed in September 2000. Progress since that time, with regard to any recommendations during the 2000 review, include the following:

Soil boring sampling at the KIDP Area on One-Line Road was completed in November 2001, in order to confirm that clean-up standards were met. The KIDP Area was the one remaining soil area at Fisher'Calo, as soil clean-up had already been confirmed at the other soil areas. Notification of the soil remedial action completion at Fisher-Calo was documented in a letter to the responsible parties at the Site in October 2003. The letter was based on U.S. EPA and Indiana Department of Environmental Management (IDEM) approval of a Final Soil Closure Report and Site inspections.

The carbon dioxide (CO2) injection system, which was installed on the One-line north and One-line south groundwater extraction wells in 1999, was discontinued in June 2004. The CO2 system was originally added in order to reduce the high levels of iron precipitation that were occurring in the extraction wells. After cleaning the affected wells in 2004, it was determined that the cost of the CO2 system was no longer justified, due to the near neutral pH present at the Site.

The Fisher-Calo responsible party contractor submitted a proposal to modify the groundwater sampling at the Site in June 2005. The purpose of the proposed revision is to optimize the frequency and location of the groundwater sampling, based on the current status of the four associated groundwater plumes. The revised sampling is believed to be needed to assist the responsible party contractor in minimizing the time required to reach groundwater clean-up requirements at Fisher-Calo. U.S. EPA and IDEM are currently reviewing the proposal and are expected to respond to it later in 2005.

VI. Five Year Review Process

A. Administrative Components

The Fisher-Calo Five Year Review was prepared by Jeff Gore, U.S. EPA Remedial Project Manager for the Site. Resa Ramsey, State Project Manager with IDEM, also assisted with the review. The five year review consisted of a Site inspection and review of relevant documents.

B. Community Involvement

The completed report will be available in the Site information repository and the U.S. EPA website for public view. An advertisement notice announcing the five year review process was placed for public viewing in the La Porte, Indiana Herald on July 1, 2005.

Community relations ongoing at the Fisher-Calo Site include the comprehensive sampling program currently being carried out to assure that human health and environment in the area is protected, and that contaminants are contained and treated by the Site remedy.

C. Document Review

Documents reviewed in preparation of this five year review report include the following:

1) Five Year Review Report, Fisher-Calo Site, 9/7/00

2) Record of Decision amendment, Fisher-Calo Site, September 1997

3) RD/RA Consent Decree, Fisher-Calo Site, February 1992

4) Record of Decision, Fisher-Calo Site, August 1990

5) Fisher-Calo Site file, and operation & maintenance documents

The following standards were identified as applicable or relevant and appropriate requirements (ARARs) in the ROD, ROD amendment and previous five year review for the Site, and were reviewed for changes that could affect protectiveness:

- Safe Drinking Water Act Maximum Contaminant Levels (MCLs);

-Resource Conservation and Recovery Act (RCRA) hazardous and solid waste disposing and storage regulations;

- Clean Water Act (CWA);

- Clean Air Act (CAA):

- Department of Transportation (DOT) hazardous materials rules;

- State of Indiana requirements for soil, groundwater, surface water and air compliance;

D. Data Review

Operation and maintenance sampling as required by the Fisher-Calo Consent Decree has been completed and reported at the Site through the end of 2004. The April 2005 semi-annual sampling has been completed at the Site, with the current report in draft review. Approximately 70 groundwater sampling locations are monitored in the Fisher-Calo sampling program for Site specific and volatile organic compounds (VOCs). The Site groundwater treatment plant for the four groundwater plumes, which operates at approximately 800 gallons per minute, is also sampled. The objective of the groundwater monitoring program at the Site is to ensure containment of the contaminant plume, with a goal of reducing concentrations toward unlimited use of groundwater at the Site.

Available Fisher-Calo groundwater treatment system data shows that the overall contaminant load present in the Site treatment plant effluent has been steadily decreasing since the plant began operation in February 1998. The concentrations of nine of ten VOCs present in the treatment plant influent (1,1,1-TCA, 1,1-DCA, 1,1-DCE, 1,2-DCA, CE, C-1,2-DCE, T-1,2-DCE, TCE and VC) have steadily decreased over the last seven years. The concentration of PCE present in the treatment plant influent has remained generally unchanged since 1998. The groundwater treatment plant with discharges to Travis Ditch and the air discharge from the plant air strippers remains well below the permitted allowable discharge standards.

The draft June 2005 revised groundwater sampling plan proposes to increase the sampling frequency of contaminated Site wells and decrease the sampling frequency at uncontaminated groundwater wells. The sampling frequency at the four Site plume boundary wells is proposed to remain unchanged, to assure proper verification of groundwater plume containment. Overall, the proposed monitoring plan would decrease the total number of groundwater samples during a five year period from approximately 490 to 470. U.S. EPA and IDEM are planning on responding to the revised sampling plan later in 2005.

Soil boring sampling at the KIDP Area on One-Line Road was completed in November 2001, in order to confirm that clean-up standards were met. The KIDP Area was the one remaining soil area at Fisher Calo, as soil clean-up had already been confirmed at the other soil areas. The soil remedy at the Fisher-Calo Site was completed in October 2003. As a result, there is no longer any soil sampling program at the Site.

E. Site Inspection

The Fisher-Calo Site has been visited a number of times by the current remedial project manager since the last five year review. The most recent visit was performed on July 6, 2005, in order to inspect the Site for this five year review. Jeff Gore of U.S. EPA and Resa Ramsey of IDEM were present during the July 6 inspection.

The Site was found to be in good condition during the inspection. A drive and walk around the

Site showed no signs of any vandalism with minor disturbances. The surface areas within the Kingsbury Industrial Park which are monitored for the Fisher-Calo Site looked to be recently mowed. Inspections of the groundwater extraction system wellfield control buildings found a pressure gauge at the One-Line south building to show a level reading above the instrument maximum. A number of the groundwater monitoring locations had no readable exterior identification on them. The lock on piezometer PZ1S-02 was unlocked, the PZSL-4 casing cap was severely bent, and the pole marker at extraction well EW1S-4 was unattached. The building for the replacement KIDP municipal well near Four-Line Road was unlocked.

Issues found during the five year review inspection were minor and included:

1) Replace the unreadable pressure gauge with a readable gauge at the One-Line south wellfield control building.

2) Provide permanent exterior identification for all groundwater monitoring locations.

3) Secure the lock on piezometer PZ1S-02.

4) Repair the severely dented casing cap on piezometer PZSL-4.

5) Attach the pole marker for extraction well EW1S-4.

6) Secure and lock the building for the replacement KIDP municipal well.

F. Interviews

Since the July 1, 2005 notice in the LaPorte, Indiana Herald newspaper, no members of the community have expressed interest or opinion concerning the Fisher-Calo five year review.

VII. Assessment

The following questions address the protection of human health and the environment of the remedy at the Fisher-Calo Superfund Site.

Question A: Is the remedy functioning as intended by the decision documents? Yes.

- **Implementation of Institutional Controls and Other Measures:** The 1990 Fisher-Calo ROD and the 1997 Fisher-Calo ROD amendment allow for unlimited use of soil and groundwater within the Kingsbury Industrial Park (KIDP) facility when the Site remedies have been completed, and as a result do not include institutional controls on the property. The Fisher-Calo Site soil remedy was completed in October 2003, and the land is available to be utilized by any

operating facilities within the KIDP facility. The Site groundwater remedy currently operates a pump and treatment system at 800 gpm on four associated groundwater plumes. Groundwater use at those four groundwater plumes is restricted until the Fisher-Calo groundwater remedy has been completed. Unlimited use of the groundwater will be available at the Site at that time.

- **Remedial Action Performance:** The Fisher-Calo Site soil remedy was completed in October 2003. The Site groundwater remedy has been operating for approximately seven years, and monitoring data at the treatment plant shows a continual decrease in total mass contaminant levels, as well as reductions of nine measured VOC compounds over that period. Future treatment plant flow rates of approximately 800 gpm should continue to provide reduction in groundwater contaminant levels at the four associated groundwater plumes. The groundwater treatment plant is planned to be operated until groundwater drinking standards are met at the Fisher-Calo Site

- **System Operations/O&M:** The last of the soil treatment systems for the Fisher-Calo Site was decommissioned in 2001, and the soil remedy was formally completed in October 2003. The Site groundwater treatment system consists of an extraction well network, four wellfield control buildings, a piping system, and a treatment plant with settling tank and air strippers for four groundwater plumes. Changes of extraction well flow rates and uses have been adjusted over the last seven years as the four plumes contaminant levels have been reduced. The groundwater monitoring program is currently being evaluated in 2005 to provide the most efficient sampling program in future years.

- **Cost of System Operations/O&M:** Current annual O&M costs at the Fisher-Calo Site are primarily contributed to operation, maintenance, reporting and management of the Site groundwater treatment systems. 2005 Site annual costs estimated by the PRPs are approximately $500,000. Other Site costs involve U.S. EPA and IDEM project manager time and travel related to the Site, and unexpected Site construction or maintenance.

- **Opportunities for Optimization:** The current proposed 2005 revision of the Fisher-Calo groundwater monitoring program is an example of an opportunity to optimize the number and location of groundwater samples at the Site. Modifications in individual extraction well pumping rates also help optimize the Site remedy. Completion of the Site soil remedy in October 2003 also provided an opportunity for remedy optimization at Fisher-Calo.

- **Early Indicators of Potential Remedy Issues:** There have been no indicators of significant potential remedy issues in relation to the Fisher-Calo Site since the last five year review in 2000. The Site soil remedy was completed in October 2003.

The Site groundwater treatment system should continue to operate, in order to continue the reduction in groundwater contaminant levels until remedial action cleanup standards are met.

Question B: Are the assumptions used at the time of remedy selection still valid? Yes.

- **Changes in Standards and To Be Considered:** Standards outlined in the 1990 Fisher-Calo ROD and 1997 ROD amendment are still valid at the Site.

- **Changes in Exposure Pathways:** No new exposure pathways have been discovered at the Fisher-Calo Site since the last five year review in 2000.

- **Changes in Toxicity and Other Contaminant Characteristics:** Toxicity and other factors for contaminants of concern have not changed since the last five year review in 2000.

- **Changes in Risk Assessment Methodologies:** Risk assessment methodologies used at the Fisher-Calo Site since the last five year review in 2000 have not changed, and do not call into question the protectiveness of the remedy.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy? No.

No other information has come available that could question the remedy for Fisher-Calo. .

According to the data reviewed and the Site inspection, the remedy is functioning as intended in the ROD and ROD Amendment. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. ARARs for soil contamination cited in the ROD and ROD Amendment have been met. The Site remedy remains protective of human health and the environment.

VIII. Issues

Issues that were discovered during the five year review process and the Fisher-Calo Site inspection are noted in Table 2.

Table 2: Identified Issues

Five Year Review Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
Revise monitoring for groundwater treatment system to optimize Site containment and treatment	N	N
Issues Noted at Site Inspection		
Replace pressure gauge at One-Line south building	N	N
Provide external identification at all monitoring wells	N	N
Secure lock on piezometer PZ1S-02	N	N
Repair casing cap on piezometer PZSL-4	N	N
Attach pole marker on extraction well EW1S-4	N	N
Secure KIDP municipal well building near 4-Line Road	N	N

IX. Recommendations and Follow-up Actions

The following recommendations and follow-up actions address the issues which were identified during the five year review and Site inspection:

1) Revise Fisher-Calo groundwater monitoring program in 2005.

2) Replace unreadable pressure gauge with a readable gauge at the One-Line south wellfield control building.

3) Provide permanent exterior identification for all groundwater monitoring locations.

4) Secure the lock on piezometer PZ1S-02.

5) Repair the severely dented casing cap on piezometer PZSL-4.

6) Attach the pole marker for extraction well EW1S-4

7) Secure and lock the building for the replacement KIDP municipal well.

Table 3 : Recommendations and Follow-up Actions

New Five Year Review Issues	Recommendations Follow-up Actions	Party Responsible	Oversight Agency	Mile-stone Date	Affects Protective ness (Y/N) Current, Future
Revise groundwater monitoring	Update and approve monitoring plan	Fisher-Calo Group/LFR	EPA/IDEM	2005	N, N
Inspection Site Issues					
One-Line south gauge	Replace pressure gauge	Fisher-Calo Group/ LFR	EPA/IDEM	2005/ ASAP	N, N
Monitoring well labels	Provide permanent exterior labels	Fisher-Calo Group/ LFR	EPA/IDEM	2005/ ASAP	N, N
PZ1S-02 lock	Secure PZ1S-02 lock	Fisher-Calo Group/ LFR	EPA/IDEM	2005/ ASAP	N, N
PZSL-4 casing cap	Repair dented casing cap	Fisher-Calo Group/ LFR	EPA/IDEM	2005/ ASAP	N, N
EW1S-4 pole marker	Attach EW1S-4 pole marker	Fisher-Calo Group/ LFR	EPA/IDEM	2005/ ASAP	N, N
KIDP well building	Secure KIDP 4-Line well building	Fisher-Calo Group/ LFR	EPA/IDEM	2005/ ASAP	N, N

X. Protectiveness Statements

Completion of the current five year review confirms that the Fisher-Calo Superfund Site remains protective of human health and the environment, and there are no known exposure pathways that could result in unacceptable health risks. The components of the remedy selected in the 1990 Fisher-Calo Site ROD and 1997 ROD amendment have been implemented and are in place.

The Fisher-Calo groundwater extraction and treatment system remains in place, and has been operating since February 1988 at approximately 800 gpm. The four groundwater plumes and Site

treatment plant are monitored under the ongoing Site operation and maintenance monitoring program. Monitoring data shows that nine of ten VOCs at Fisher-Calo have been steadily decreasing over the last seven years. Changes to extraction well flow rates and uses have been adjusted over the last seven years as the four plumes contaminant levels have been reduced. The groundwater monitoring program is currently being evaluated in 2005 to provide the most efficient sampling program in future years. The last of the six soil treatment systems for the Fisher-Calo Site was decommissioned in 2001, and the soil remedy was formally completed in October 2003.

Since it is unlikely that Site groundwater cleanup standards will be met during the next five years, the Fisher-Calo operation of the groundwater treatment system should continue to operate for the foreseeable future.

XI. Next Review

The Fisher-Calo Superfund Site requires ongoing policy five year reviews until unrestricted use and unlimited exposure is obtained. The next review will be scheduled to be completed by September 2010, and will be five years from the completion date of this report. The completion date of the current five year review is the signature date shown on the cover attached to the front of this report.

FIVE YEAR REVIEW REPORT
LIST OF DOCUMENTS REVIEWED
SEPTEMBER, 2005

FISHER CALO SUPERFUND SITE

KINGSBURY,
INDIANA

1) Five Year Review Report, Fisher-Calo Site, September 2000

2) Record of Decision Amendment, Fisher-Calo Site, September 1997

3) RD/RA Consent Decree, Fisher-Calo Site, February 1992

4) Record of Decision, Fisher-Calo Site, August 1990

5) Fisher-Calo Site file, and operation & maintenance documents.

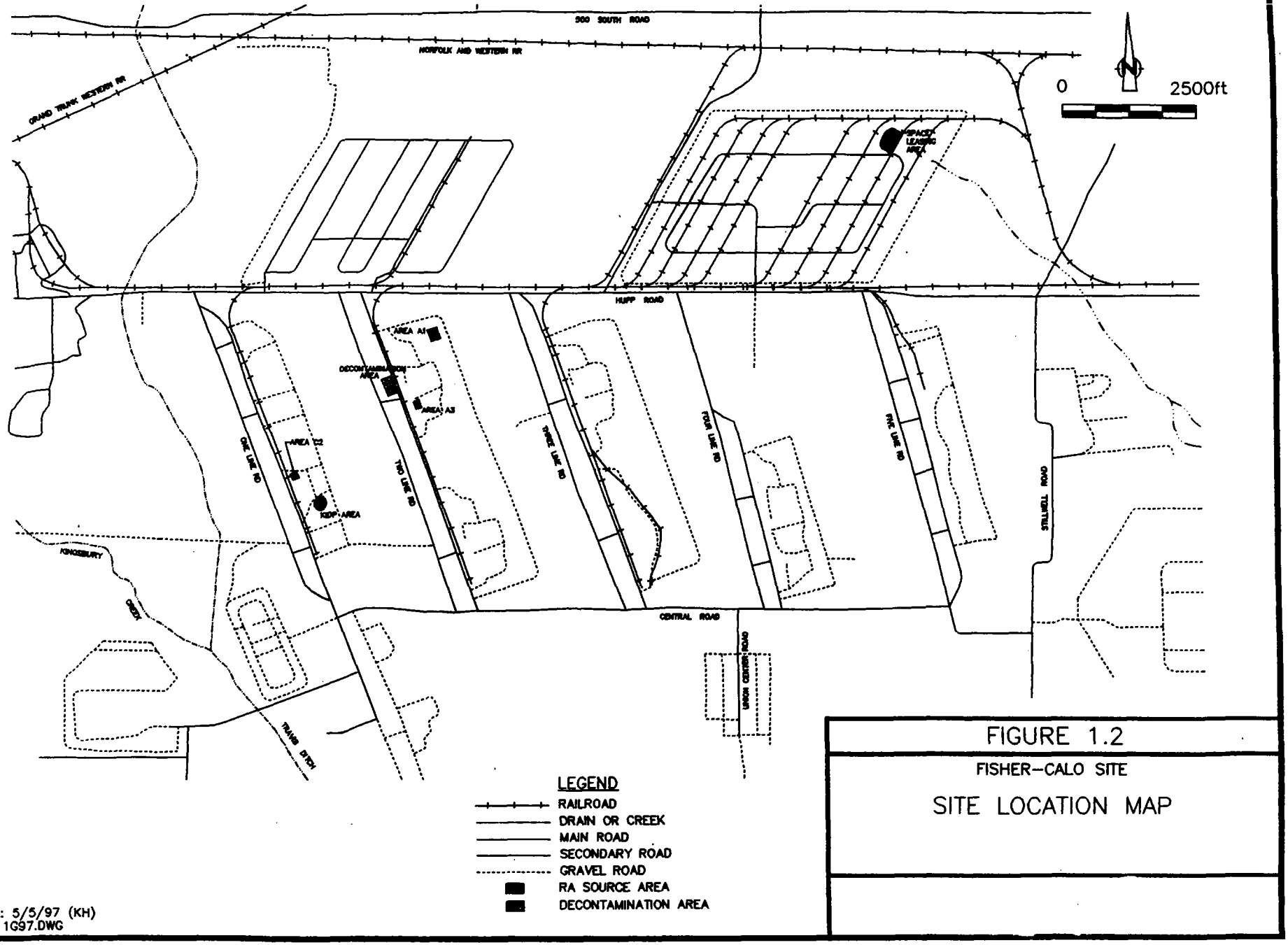

FIGURE 1.2

FISHER-CALO SITE

SITE LOCATION MAP

DATE: 5/5/97 (KH)
72911G97.DWG

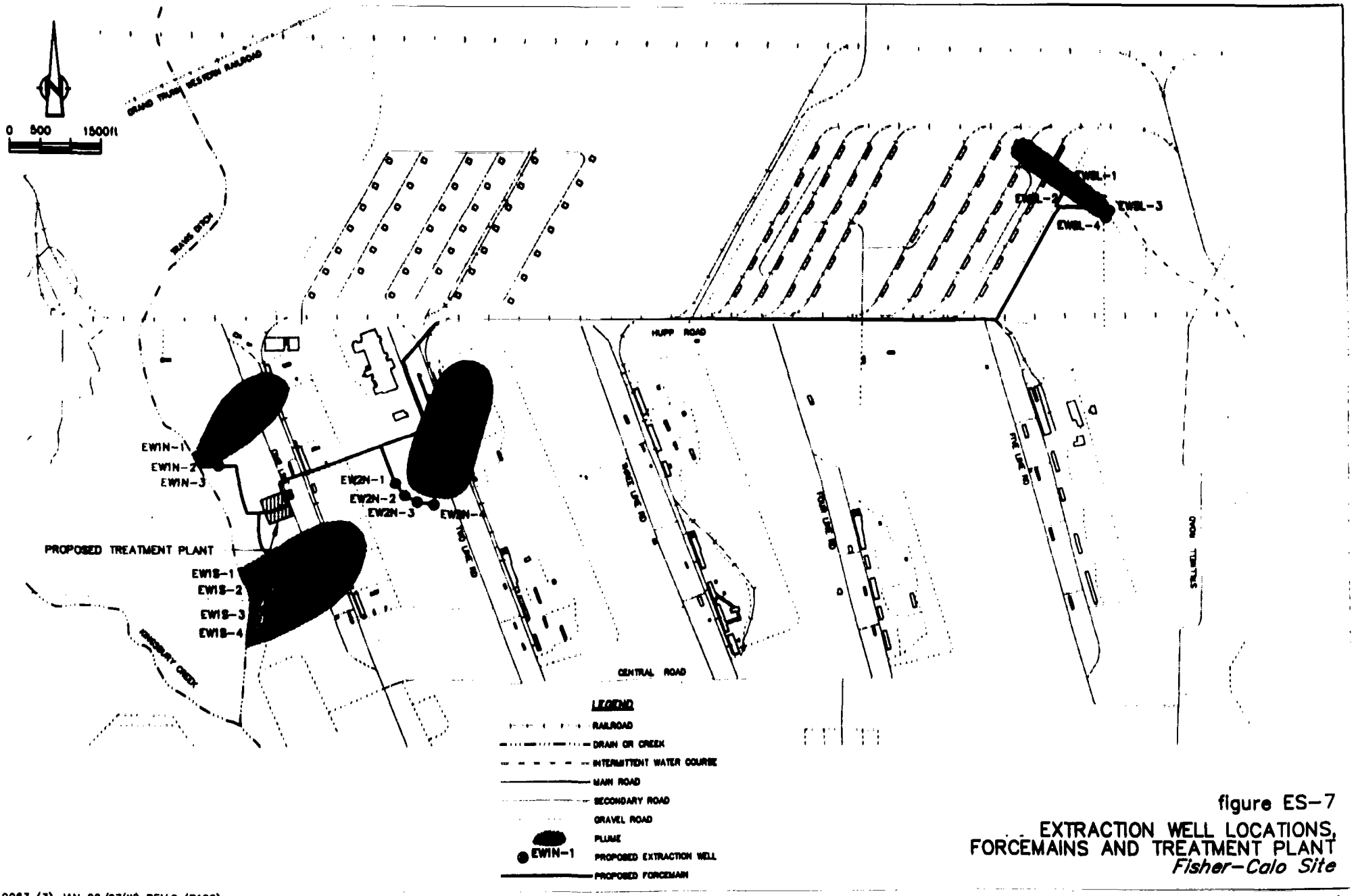

figure ES-7
EXTRACTION WELL LOCATIONS, FORCEMAINS AND TREATMENT PLANT
Fisher-Calo Site

Herald Argus Newspaper July 1, 2005

EPA Reviews Cleanup of Fisher-Calo Site
Kingsbury, Indiana

U.S. Environmental Protection Agency is conducting a review of the Fisher-Calo Superfund site. The Superfund law requires regular reviews of sites (at least every five years) where the cleanup is complete but hazardous waste remains managed on site. These reviews are done to ensure that the cleanup continues to protect human health and the environment.

This review includes an evaluation of background information, cleanup requirements, effectiveness of the cleanup, and any anticipated future actions. A review was previously done in September 2000.

Cleanup actions for the site included removal of hazardous materials, installation of a pump and treatment system for ground water (underground supplies of fresh water), and construction of a soil remedy system program that ended in October 2003.

The public is invited to comment on the current condition of the Site. Written comments must be submitted no later than August 1, 2005, and should be directed to:

Yolanda Bouchee-Cureton
Community Involvement Coordinator
EPA Region 5
77 W. Jackson Blvd. (P-19J)
Chicago, IL 60604
(800) 621-8431, weekdays 9 a.m.- 4:30 p.m.
or (312) 353-3209
bouchee.yolanda@epa.gov